REMARKS

This application is a broadening reissue application that was filed within two years of the issue date of U.S. Patent No. 6,264,659. Claims 1-11 have been allowed while Claims 12-24 are pending. In the Office Action mailed on July 17, 2007 the Examiner rejected Claims 12-16 and 19-24 under 35 U.S.C 102(b) and Claims 17 and 18 under 35 U.S.C. 103(a). Through this amendment, Applicants have amended claims 12 and 24 relative to the previous amendment paper to each include the limitation of the needle having a diameter within the range of about six millimeters to about ten millimeters. No new matter has been entered. All claim amendments, including new claims and amendments to new claims, have been made with markings showing changes relative to the issued patent as required by 37 CFR 1.173(d)&(g). Applicants respectfully request favorable consideration of the present application in light of the amendments to the claims and the following remarks.

I. Claim Status

Claims 1-24 are now pending. Claims 1, 12-17 and 19-22 have been amended. Original claims 2-11 and 18 remain unchanged. New claims 23 and 24 have been added. The status of the pending claims is as follows.

CLAIM	STATUS
1	Amended
2-11	Original
12	Twice Amended
13-17	Amended
18	Original
19-22	Amended
23-24	New

II. Explanations for Amendments to Claims

The support in the disclosure of U.S. Patent No. 6,264,659 for the changes made to the claims (*i.e.*, amended claims 1, 12-17 and 19-22 and new claims 23-24) is found in at least the following sections of the '659 patent set forth below under the respective claim(s).

Claim 1 has been amended as follows:

1. A process of replacing nucleus pulposus of an intervertebral disk, comprising:

[identifying a location of a rupture in an annulus fibrosus of an intervertebral disk;]

removing nucleus pulposus associated with [said] an annulus fibrosus of [said] an intervertebral disk; and

injecting a thermoplastic material heated to a temperature over 50 C. for flowing into said annulus fibrosus and then permitting said material to cool for setting in a non-flowing state upon reaching a temperature of between 35 C. and 42C., so as to cause said material to occupy a space formerly occupied by said removed nucleus pulposus.

Line No.	Support For Amendment
8	Figure 3 (nucleus pulposus removed from areas adjacent to the rupture, aperture or hole 14, as well as the interior away from said rupture, aperture or hole 14). Column 1, lines 30-35 (annulus fibrosus may be accessed via tear, puncture, rupture or prolapse). Column 1, lines 43-45 (disk site may be surgically accessed).

Claim 12 has been amended as follows:

12. [The] An injection device [as defined in claim 4] for injecting thermoplastic material, the injection device comprising:

a heating element and a needle configured to dispense the thermoplastic material into an intervertebral disk, wherein said needle has a diameter in a range from about six millimeters to about ten millimeters [wherein the thermoplastic material comprises a geometric isomer of natural rubber].

Line No.	Support For Amendment
1-4	Figure 3 (injection device 22 with needle 38 and heater 28 dispensing thermoplastic material 20). Column 2, lines 12-15 (injection of a thermoplastic material heated to a predetermined temperature for injection into the nucleus pulposus in a flowable state). Column 2, lines 61-67 (an injection device utilized for heating and injecting the thermoplastic material, the device may utilize a silver needle encased in ceramics). Column 4, lines 53-56 (a heater 28 is provided to heat the thermoplastic material).
4-5	Column 6, line 34 (needle 62 is preferably 6 mm in diameter). Column 5, lines 6-8 (needle 38 will not exceed a diameter of about 1 centimeter).

Claim 13 has been amended as follows:

13. The injection device as defined in claim [4] 12, wherein said [heater] heating element heats said thermoplastic material for flowing at a temperature between about 150C and 200C.

Line No.	Support For Amendment
1-2	Figure 3 (showing a heating element 28 provided to heat the thermoplastic material). Column 4, lines 53-56 (a heater 28 is provided to heat the thermoplastic material).
2-3	Column 5, lines 21-27 (Generally the lowest temperature to which the thermoplastic material is heated while utilizing a large diameter needle such as 1 centimeter in diameter with a relatively high axial force may be 50 C, while the highest temperature will be less than about 250 C. The optimum temperature is about 185 C, within an optimum range between about 150 C and 200 C).

Claim 14 has been amended as follows:

14. The injection device as defined in claim [4] 12, wherein said thermoplastic material comprises a linear crystalline polymer.

Line No.	Support For Amendment
1-2	Column 2, lines 25-30 (A thermoplastic material which has been found to be highly satisfactory is gutta percha which is normally combined with other elements or ingredients in a suitable gutta percha compound. Gutta percha is a linear crystalline polymer which melts at a predetermined temperature, and a random but distinct change in structure results).

Claim 15 has been amended as follows:

15. The injection device as defined in claim [4] 12, wherein said thermoplastic material comprises a gutta percha compound in which gutta percha is between 15% and 40% by weight of the compound.

Line No.	Support For Amendment
1-3	Column 2, lines 25-30 (A thermoplastic material which has been found to be highly satisfactory is gutta percha which is normally combined with other elements or ingredients in a suitable gutta percha compound. Gutta perdha is a linear crystalline polymer which melts at a predetermined temperature, and a random but distinct change in structure results. Column 2, lines 45-52 (A suitable gutta percha compound is dental gutta percha which contains by weight only about 20% gutta percha with zinc oxide comprising about 60% to 75% of the material. The remaining 5% to 10% consists of various resins, waxes, and metal sulfates. The percentages listed are directed to an optimum gutta percha compound. The preferred percentage of gutta percha is in the range of 15% to 40%.)

Claim 16 has been amended as follows:

16. The injection device as defined in claim [4] 12, wherein said injection needle is formed of a ceramic material.

Line No.	Support For Amendment
1-2	Figure 3 (an injection needle 38 preferably formed of silver extends from body 24 and has a ceramic sheath 40 about a portion of needle 38). Column 2, lines 63-66 (The injection device may utilize a silver needle, encased in ceramics, of about 20 to 30 centimeters in length with a diameter as high as 1 centimeter).

Claim 17 has been amended as follows:

17. The injection device as defined in claim [4] 12, further comprising:

an expandable sleeve about said needle adjacent an extending end of said needle to define an annulus between said needle and said sleeve, so that pressurized fluid communicating with the annulus expands said sleeve outwardly.

Line No.	Support For Amendment
1-3	Figure 7 (a detachable balloon dilator sleeve 106 extends about the extending end of needle 104 having lateral openings 107).
4-5	Figure 7 (Piston 108 is effective to pressurize the fluid for flow through openings 107 for expansion of sleeve 106 as shown in broken lines in FIG. 7. Dilator sleeve 106 upon injection of needle 104 in a disk of the spine is expanded for exerting an expanding force against the disk).

Claim 19 has been amended as follows:

19. The injection device as defined in claim [4] 12, further comprising:

a chamber for receiving a plug of said thermoplastic material;

a piston adjacent an end of said plug for exerting a force against said plug; and

a hand operated trigger [is] operatively connected to said piston and upon actuation is effective to force said thermoplastic material from said needle when said thermoplastic material is heated to a flowing state.

Line No.	Support For Amendment
1-3	Figure 3 (injection gun 22 has a body 24 with removable plunger 26 adapted to receive a cylindrical plug of the thermoplastic material 20). Figure 6 (a generally cylindrical chamber or housing 72 adjacent heater 64 is provided to receive a cylindrical plug 74 of the thermoplastic material). Column 4, lines 51-53 (injection gun 22 has a body 24 with a removable plunger 26 adapted to receive a cylindrical plug of the thermoplastic material 20). Column 6, lines 13-15 (a generally cylindrical chamber or housing 72 adjacent heater 64 is provided to receive a cylindrical plug 74 of the thermoplastic material).
4	Figure 7 (a piston for pressurizing the fluid). Column 6, lines 56-59 (a disk dilator assembly generally indicated at 100 having a cylindrical chamber 102 with an inert fluid such as saline therein and a piston 108 for pressurizing the fluid).
5-7	Figure 3 (a hand operated trigger for activating a force). Column 4, lines 59-62 (a hand operated trigger 42 may be activated for forcing thermoplastic material 20 from the end of needle 38 upon heating of the thermoplastic material 20 to a predetermined temperature).

Claim 20 has been amended as follows:

20. The injection device as defined in claim [4] 12, further comprising[;]:

a chamber for receiving a plug of said thermoplastic material; and

a hand operated trigger operatively connected to said plug thermoplastic material and upon actuation is effective to force said thermoplastic material from said needle when said thermoplastic material is heated to a flowing state.

Line No.	Support For Amendment
1-3	Figure 3 (injection gun 22 has a body 24 with a removable plunger 26 adapted to receive a cylindrical plug of the thermoplastic material 20). Figure 6, (a generally cylindrical chamber or housing 72 adjacent heater 64 is provided to receive a cylindrical plug of the thermoplastic material 20). Column 4, line 51-53 (injection gun 22 has a body 24 with a removable plunger 26 adapted to receive a cylindrical plug of the thermoplastic material 20). Column 6, lines 13-15 (a generally cylindrical chamber or housing 72 adjacent heater 64 is provided to receive a cylindrical plug 74 of the thermoplastic material).
4-6	Figure 3 (a hand operated trigger for activating a force). Column 4, lines 59-62 (a hand operated trigger 42 may be activated for forcing thermoplastic material 20 from the end of needl e38 upon heating of the thermoplastic material 20 to a predetermined temperature).

Claim 21 has been amended as follows:

21. The injection device as defined in claim [4] 20, [further comprising;] wherein:

[the] said chamber for receiving [the] said plug is provided in a plunger removable from an injection device body.

Line No.	Support For Amendment
4	Figure 3 & Column 4 lines 48-50 (injection of thermoplastic material 20 within the annulus fibrosus 12 by an injection device or gun illustrated schematically at 22 is shown. Injection gun 22 has a body 24 with a removable plunger 26 adapted to receive a cylindrical plug of the thermoplastic material 20). Column 2, line 66 – Column 3, line 4 (The size of the needle may depend on such factors as the amount of thermoplastic material to be injected, the temperature of the thermoplastic being injected, and the axial pressure applied by the injection device, such as a piston or plunger, to the thermoplastic material to force the heated material from the end of the needle into the spine).

Claim 22 has been amended as follows:

22. The injection device [asa] as defined in claim [4] 12, further comprising[;]:

a heater control unit having an adjustable temperature control to provide a selected temperature for said [heater] heating element.

Line No.	Support For Amendment
1	Column 2, lines 61-67 (an injection device utilized for heating and injecting the thermoplastic material, the device may utilize a silver needle encased in ceramics).
3-4	Figure 3 and Column 4, lines 53-56 (a heater 28 is provided to heat the thermoplastic material 20 and a heater control unit 30 having an adjustable temperature control knob 32 is provided with a temperature readout at 34).

New claims 23-24 find support as follows:

Claim No.	Support For Addition
23	Column 2, lines 28-29 (gutta percha is a linear crystalline polymer which melts at a predetermined temperature, and a random but distinct change in structure results).
24	Column 2, line 12-17 (the present invention is particularly directed to a process for treating the spine including the injection of a thermoplastic material heated to a predetermined temperature for injection into the nucleus pulposus in a flowing state where it cools and sets at body temperature into a non-flowing state). Column 2, lines 61-63 (an injection device, such as an injection gun, is utilized for heating and injecting the thermoplastic material under a predetermined pressure within the spine). Column 4, line 48 – Column 5, line 27 (description of use of device to heat thermoplastic material and inject into annulus fibrosus to cool to form a resilient cushion). Column 6, line 34 (needle 62 is preferably 6 mm in diameter). Column 5, lines 6-8 (needle 38 will not exceed a diameter of about 1 centimeter).

III. Claim Rejections – 35 USC § 102(b)

A. Berggren

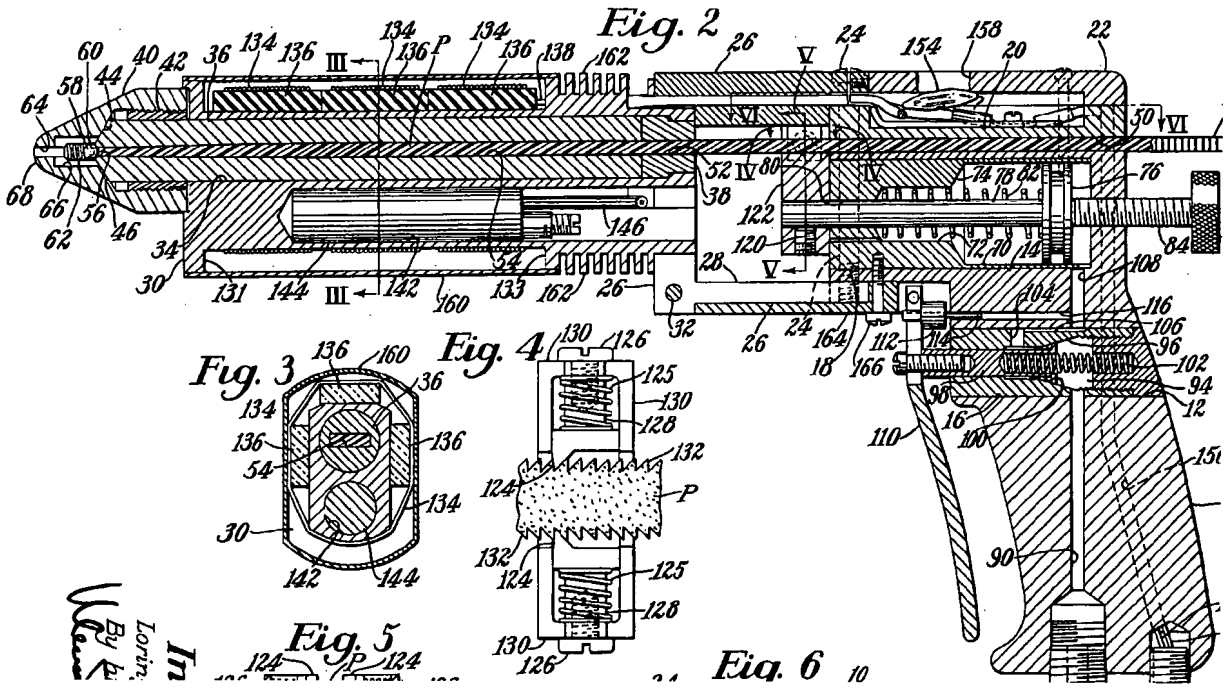
On page 2 of the Office Action, claims 12-13 and 19-24 were rejected under 35 USC § 102(b) as being anticipated U.S. Patent No. 2,995,159 to Berggren. Applicants respectfully traverse this rejection as set forth below.

In order for a reference to anticipate the present claimed invention under 35 U.S.C. § 102(b), it must be shown that each and every element of the claim can be found in the reference. If it can be shown that one element of the claim is missing or not met by the cited reference, the rejection must be withdrawn as inappropriate.

Claim 12, as amended, describes an injection device for injecting thermoplastic material into a vertebral disk. The device includes a heating element and ***a needle having a diameter between about six millimeters and about ten millimeters***.

New Claim 24, as amended, describes a system for treating an intervertebral disk, comprising a thermoplastic material capable of being heated to a flowable state at a predetermined temperature, above body temperature, for introduction into an intervertebral disk and thereafter cooling to return to a non flowable state after introduction. The claimed system also includes an injection device having a chamber for receiving the thermoplastic material, a heating element for heating the thermoplastic material and a ***needle having a diameter within the range of about six millimeters to about ten millimeters*** for injecting the flowable thermoplastic material into an intervertebral disk of a patient.

The Berggren reference appears to be silent with regard to at least one element found in both independent claim 12 (as amended) and independent new claim 24 (as amended), such that the rejection for anticipation should be withdrawn. Among other voids the Berggren reference does not disclose the element of claims 12 and 24 of the present invention that describes a ***needle having a diameter within the range of about six millimeters to about ten millimeters*** for injecting a flowable thermoplastic material into an intervertebral disk. The Examiner refers to Fig. 2 reference number (44) as a needle for dispensing of the thermoplastic material. The Berggren reference (US 2,995,159 column 2 lines 71-72) describes the structure denoted by reference number 44 as "conical ***surface.***" *Column 2, lines 70-73.*



Applicants respectfully submit that the conical ***surface*** of Breggren fails to present a structure which anticipates independent claim 12 and new claim 24 including a needle having a diameter within the range of about six millimeters to about ten millimeters.

Because Berggren fails to teach or disclose at least one claimed feature in the independent claims 12 and 24, Applicants respectfully submit that the rejection under 35 USC § 102(b) should be withdrawn in favor of an indication of allowance, which is hereby earnestly solicited. Since rejected Claims 13, 19-23 are all dependent upon independent claim 12, it follows that Applicants believe these claims to be in condition for allowance, and respectfully request a favorable indication in that regard.

B. Herskovitz et al.

On page 3 of the Office Action, claims 12-16 and 19-24 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,357,136 to Herskovitz et al. Applicants respectfully traverse this rejection as set forth below.

The Herskovitz reference appears to be silent with regard to at least one element found in both independent claim 12 (as amended) and independent new claim 24 (as amended), such that the rejection for anticipation should be withdrawn. Among other voids, the Herskovitz reference does not disclose the element of claims 12 and 24 of the present invention that involves a device including a ***needle having a diameter within a range of about six millimeters to about ten millimeters.***

The Hersokovitz reference discloses a device for depositing materials within a ***dental*** cavity which comprises a needle. Although describing a needle, the reference only ***discloses a diameter range between eighteen and thirty gauge***. *Col. 4 line 28.* Within the medical arts, needle diameters are described by the Birmingham gauge scale. Referencing a conversion chart translating Birmingham gauge figures to millimeters (found at http://www.usefulinformation.eu/engineering/wire_gauges_metric.html and attached hereto as Exhibit A), eighteen gauge translates to an outer diameter of 1.27 millimeters (using the US sheet metal standard) while thirty gauge translates to an outer diameter of .3175 millimeters. Therefore the reference discloses a needle within the range of about .3175 millimeters to about 1.27 millimeters. The upper range presented by the Herskovitz reference, about 1.27 millimeters, does not fall within or even near the range of about six millimeters to about 10 millimeters as claimed in independent claims 12 and 24. Thus the reference does not disclose the element in Applicants' claimed element regarding a needle having a diameter within the range of about six millimeters to about ten millimeters.

Because Herskovitz fails to teach or disclose at least one claimed feature in the independent claims 12 and 24, Applicants respectfully submit that the rejection under 35 USC § 102(b) should be withdrawn in favor of an indication of allowance, which is hereby earnestly solicited. Since rejected Claims 13-16, 19-23 are all dependent upon independent claim 12 it follows that Applicants believe these claims to be in condition for allowance, and respectfully request a favorable indication in that regard.

C. Brockway et al.

On page 3 of the Office Action the Examiner rejected Claims 12-16, 19-24 under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 4,684,344 to Brockway et al. Applicants respectfully traverse this rejection as set forth below.

The Brockway reference appears to be silent with regard to at least one element found in both independent claim 12 (as amended) and independent new claim 24 (as amended), such that the rejection for anticipation should be withdrawn. Among other voids, the Brockway reference does not disclose the element of claims 12 and 24 of the present invention that involves a device including a ***needle having a diameter within a range of about six millimeters to about ten millimeters***. The Brockway reference does disclose a needle and describes the needle as bent; however the referenced needle is described without any dimension element pertaining to diameter. Because the Brockway reference does not disclose a needle having a diameter in the range of about 6 millimeters to about ten millimeters, Brockway fails to disclose every claimed feature of independent claims 12 and 24 as presented in the instant application.

Because Brockway fails to teach or disclose at least one claimed feature in the independent claims 12 and 24, Applicants respectfully submit that the rejection under 35 USC § 102(b) should be withdrawn in favor of an indication of allowance, which is hereby earnestly solicited. Since rejected Claims 13-16, 19-23 are all dependent upon independent claim 12 it follows that Applicants believe these claims to be in condition for allowance, and respectfully request a favorable indication in that regard.

IV. Claim Rejections - 35 USC § 103(a)

A. Brockway in view of Mastorio

Claims 17 and 18 were rejected under 35 USC § 103(a) as being unpatentable over Brockway et al. in view of U.S Patent No. 5,849,014 to Mastrorio et al. Applicants respectfully traverse this rejection as set forth below.

To establish a *prima facie* case of obviousness under 35 USC § 103(a) in view of a reference or combination of references, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. ***Third, the prior art references must teach or suggest all the claim limitations***. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Finally, in determining the differences between the prior art and the claims, the question under 35 USC § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious.

Rejected Claims 17 and 18 depend from independent Claim 12. As described above, claim 12 describes an injection device for injecting thermoplastic material into a vertebral disk. The device includes a heating element and ***a needle having a diameter within a range of about six millimeters to about ten millimeters***.

Neither the Brockway nor Mastorio references, alone or in combination, appear to disclose or suggest the features of amended Claim 12 from which rejected Claims 17 and 18 depend. Among other voids, these references appear to be completely silent regarding ***a needle having a diameter between about 6 millimeters to ten millimeters***.

The Brockway reference is discussed above. The Mastorio reference does not cure the defect of Brockway. The Mastorio reference discloses a cement restrictor system comprising an inflatable body and a conduit including a flexible lumen catheter. The reference does not disclose a needle having a diameter within a range of about six millimeters to about ten millimeters used in conjunction with the inflatable body. Therefore, the Mastorio reference fails to teach or suggest the missing element of Applicants device of Claims 17 and 18 which includes

the element regarding a needle having a diameter between about six and ten millimeters.

Based on the foregoing, Applicants respectfully submit that the Brockway and Mastorio references, whether taken alone or in combination, fail to contain the requisite teaching or suggestion that would have lead one of ordinary skill in the art to the present invention as set forth in independent claim 12. Because Claims 17 and 18 depend from Applicant's Claim 12, it is respectfully requested that the rejection under 35 USC § 103(a) of the Office Action be withdrawn. Claims 17 and 18 are believed to be in proper condition for allowance and an indication of such is hereby respectfully requested.

V. Allowable Subject Matter

Applicants wish to thank the Examiner for the allowance of claims 1-11.

CONCLUSION

The foregoing amendment has been submitted to place the present application in condition for allowance. Favorable consideration and allowance of the claims in this application is respectfully requested. In the event that there are any questions concerning this Amendment or the application in general, the Examiner is cordially invited to telephone the undersigned attorney so that prosecution may be expedited.

Respectfully submitted,

NUVASIVE, INC.

By: _____

Jonathan Spangler, Esq.
Registration No. 40,182

4545 Towne Centre Court
San Diego, CA 92121
Tel.: (858) 243-0029

November 19, 2007

Menu

Home Page
Area
Capacity
Density
Energy or Work
Force
Length
Mass or Weight
Power
Pressure
Speed
Temperature
Periodic Table
Physical Constants
Drill Sizes
Wire Gauges
Wire Gauges (Metric)
UK Area Codes
Country Codes
UK Postcodes
Links
Bookmark this site

Wire Gauge Table - Metric Sizes

The first column gives the Gauge Number and the other columns give the exact size in mm for the particular standard.

Gauge No	SWG	AWG	Stubbs	Birmingham Sheet Metal	Washburn & Meon	US Sheet	S & W Music Wire	Birmingham Stubbs Iron
7/0	12.7000			16.9316	12.4460			
6/0	11.7856			15.8750	11.7221	11.9050	0.1016	
5/0	10.9728			14.9428	10.9347	11.1125	0.1270	
4/0	10.1600	11.6840		13.7566	10.0025	10.3175	0.1524	11.7856
3/0	9.4488	10.4038		12.7000	9.2075	9.5250	0.1778	10.7950
2/0	8.8392	9.2659		11.3081	8.4074	8.7300	0.2032	9.6520
0	8.2296	8.2525		10.0686	7.7851	7.9375	0.2286	8.6360
1	7.6200	7.3482	5.7658	8.9713	7.1882	7.1501	0.2540	7.6200
2	7.0104	6.5430	5.5626	7.9934	6.6675	6.7462	0.2794	7.2136
3	6.4008	5.8268	5.3848	7.1222	6.1900	6.3500	0.3048	6.5786
4	5.8928	5.1892	5.2578	6.3500	5.7226	5.9538	0.3302	6.0452
5	5.3848	4.6203	5.1816	5.6515	5.2578	5.5550	0.3556	5.5880
6	4.8768	4.1148	5.1054	5.0317	4.8768	5.1587	0.4064	5.1562
7	4.4704	3.6652	5.0546	4.4806	4.4958	4.7625	0.4572	4.5720
8	4.0640	3.2639	5.0038	3.9878	4.1148	4.3663	0.5080	4.1910
9	3.6576	2.9566	4.9276	3.5509	3.7668	3.9675	0.5588	3.7592
10	3.2512	2.5883	4.8514	3.1750	3.4290	3.5712	0.6096	3.4036
11	2.9464	2.3038	4.7752	2.8270	3.0607	3.1750	0.6604	3.0480
12	2.6416	2.0523	4.6990	2.5171	2.6797	2.7788	0.7366	2.7686
13	2.3368	1.8288	4.6228	2.2403	2.3241	2.3800	0.7874	2.4130
14	2.0320	1.6281	4.5720	1.9939	2.0320	1.9837	0.8382	2.1082
15	1.8288	1.4503	4.5212	1.7755	1.8288	1.7856	0.8890	1.8288
16	1.6256	1.2903	4.4450	1.5875	1.5875	1.5875	0.9398	1.6510
17	1.4224	1.1506	4.3688	1.4122	1.3716	1.4275	0.9906	1.4732
18	1.2192	1.0236	4.2672	1.2573	1.2065	1.2700	1.0414	1.2446
19	1.0160	0.9119	4.1656	1.1176	1.0414	1.1100	1.0922	1.0668
20	0.9144	0.8128	4.0894	0.9957	0.8839	0.9525	1.1430	0.8890
21	0.8128	0.7239	3.9878	0.8865	0.8052	0.8738	1.1938	0.8128
22	0.7112	0.6426	3.9370	0.7925	0.7264	0.7925	1.2446	0.7112
23	0.6096	0.5740	3.8862	0.7061	0.6553	0.7137	1.2954	0.6350
24	0.5588	0.5105	3.8354	0.6299	0.5842	0.6350	1.3970	0.5588
25	0.5080	0.4547	3.7592	0.5588	0.5182	0.5563	1.4986	0.5080
26	0.4572	0.4039	3.7084	0.4978	0.4597	0.4750	1.6002	0.4572
27	0.4166	0.3607	3.6322	0.4420	0.4394	0.4369	1.7018	0.4064
28	0.3759	0.3200	3.5306	0.3962	0.4115	0.3962	1.8034	0.3556
29	0.3454	0.2870	3.4036	0.3531	0.3810	0.3581	1.9050	0.3302
30	0.3150	0.2540	3.2258	0.3124	0.3556	0.3175	2.0320	0.3048
31	0.2946	0.2261	3.0480	0.2794	0.3353	0.2769	2.1590	0.2540
32	0.2743	0.2007	2.9210	0.2489	0.3251	0.2591	2.2860	0.2286
33	0.2540	0.1803	2.8448	0.2210	0.2997	0.2388	2.4130	0.2032
34	0.2337	0.1600	2.7940	0.1956	0.2642	0.2184	2.5400	0.1778
35	0.2134	0.1422	2.7686	0.1753	0.2413	0.1981	2.6924	0.1524
36	0.1930	0.1270	2.6924	0.1549	0.2286	0.1778	2.8448	0.1016
37	0.1727	0.1143	2.6162	0.1372	0.2159	0.1676	2.9972	
38	0.1524	0.1016	2.5654	0.1219	0.2032	0.1575	3.1496	

39	0.1321	0.0889	2.5146	0.1092	0.1905	3.3020
40	0.1219	0.0787	2.4638	0.0991	0.1778	0.9652
41	0.1118		2.4130	0.0864		3.7084
42	0.1016		2.3368	0.0787		3.9116
43	0.0914		2.2352	0.0686		4.1148
44	0.0813		2.1590	0.0610		4.3180
45	0.0711		2.0574	0.0533		4.5720
46	0.0610		2.0066	0.0483		
47	0.0508		1.9558	0.0432		
48	0.0406		1.9050	0.0381		
49	0.0305		1.8288	0.0330		
50	0.0254		1.7526	0.0305		